

The Economics of Pollution

Instructor: Joshua Graff Zivin

Course Description:

This course will provide a brief overview of the economics of environmental regulation followed by a focus on the relationship between environment and health, human capital, and economic development.

Course Schedule and Reading List:

Session 1: Economics of Environmental Regulation

- Key Topics: Market Failure, Coase, and Pigouvian Taxes; Cap-and-Trade
- Readings:
 - Cropper, Maureen and Wallace Oates, “Environmental Economics: A Survey,” *Journal of Economic Literature* 30(2), 1992.

Session 2: Pollution and Health

- Key Topics: Mortality, Morbidity, and Latency
- Readings:
 - Graff Zivin, J and M Neidell. “Environment, Health, and Human Capital.” *Journal of Economic Literature* 51(2013): 689-730.
 - Chay, K and M Greenstone. “The Impact of Air Pollution on Infant Mortality: Evidence from Geographic Variation in Pollution Shocks Induced by a Recession.” *Quarterly Journal of Economics* 118(2003) 1121-1167.
 - Schlenker, W., & Walker, W. R. “Airports, Air Pollution, and Contemporaneous Health.” *The Review of Economic Studies*, 83(2016): 768-809.
 - Bishop, Kelly C., Jonathan D. Ketcham, and Nicolai V. Kuminoff. “Hazed and confused: the effect of air pollution on dementia.” *The Review of Economic Studies* 90(2023): 2188–2214.

Session 3: Pollution and Human Capital

- Key Topics: Schooling, Cognitive Performance, Labor Market Outcomes
- Readings:
 - Graff Zivin, J and M Neidell. “The Impact of Pollution on Worker Productivity.” *American Economic Review* 102(2012): 3652–3673.
 - Ebenstein, Avraham, Victor Lavy, and Sefi Roth. “The Long-Run Economic Consequences of High-Stakes Examinations: Evidence from Transitory Variation in Pollution.” *American Economic Journal: Applied Economics* 8(2016): 36-65.
 - Bharadwaj et al. “Gray Matters: Fetal Pollution Exposure and Human Capital Formation.” *Journal of the Association of Environmental and Resource Economists*, 4(2016): 505-542.
 - Isen, A., Rossin-Slater, M., & Walker, W. R. “Every Breath You Take—Every Dollar You’ll Make: The Long-Term Consequences of the Clean Air Act of 1970.” *Journal of Political Economy*, 125(2017): 848-902.

Session 4: Endogenous Exposure to Pollution

- Key Topics: Sorting and Avoidance Behavior
- Readings:
 - Banzhaf, Spencer, Lala Ma, and Christopher Timmins. "Environmental Justice: The Economics of Race, Place, and Pollution." *Journal of Economic Perspectives* 33 (2019): 185-208.
 - Currie, Janet. "Inequality at Birth: Some Causes and Consequences." *American Economic Review* 101(2011): 1-22.
 - Neidell, M. "Information, Avoidance Behavior, and Health: The Effect of Ozone on Asthma Hospitalizations." *Journal of Human Resources* 44(2009): 450-478.
 - Graff Zivin, J, M Neidell, and W Schlenker, "Water Quality Violations and Avoidance Behavior: Evidence from Bottled Water Consumption." *American Economic Review* 101(2011): 448-453.

Session 5: Pollution and Development

- Key Topics: Poverty Interactions, Missing Markets
- Readings:
 - Greenstone, M and K Jack. "Envirodevonomics: A Research Agenda for an Emerging Field." *Journal of Economic Literature* 53(2015): 5-42.
 - Alix-Garcia et al. "The Ecological Footprint of Poverty Alleviation: Evidence from Mexico's Oportunidades Program." *Review of Economics and Statistics* 95(2013): 417-435.
 - Arceo, E, R Hanna, and P Oliva. "Does the Effect of Pollution on Infant Mortality Differ Between Developing and Developed Countries? Evidence from Mexico City." *The Economic Journal* (2015).

Session 6: Impacts of Climate Change

- Key Topics: Weather vs Climate, Adaptation
- Readings:
 - Dell, M, B Jones, and B Olken. "What Do We Learn from the Weather? The New Climate-Economy Literature." *Journal of Economic Literature* 52(2014): 740-798.
 - Barreca, Alan, et al. "Adapting to Climate Change: The Remarkable Decline in the US Temperature-Mortality Relationship Over the Twentieth Century." *Journal of Political Economy* 124(2016): 105-159.
 - Graff Zivin, J and M Neidell. "Temperature and the Allocation of Time: Implications for Climate Change." *Journal of Labor Economics* 32(2014): 1-26.
 - Graff Zivin, J, S Hsiang, and M Neidell. "Temperature and Human Capital in the Short-and Long-Run." *Journal of the Association of Environmental and Resource Economists* 5(2018): 77-105.
 - Graff Zivin, J, Y Song, Q Tang, and P Zhang, "Temperature and High-Stakes Cognitive Performance: Evidence from the National College Entrance Examination in China," *Journal of Environmental Economics and Management*, forthcoming.

